

REMARKS

Applicants respectfully request further examination and reconsideration in view of the above amendments. Claims 1-20 are rejected. Claims 1, 8, 9, 16, 19, and 20 are amended herein, and Claim 18 is cancelled herein. Accordingly, Claims 1-17, 19, and 20 remain pending in the case. No new matter has been added.

Claim Rejections

35 U.S.C. §101

According to MPEP MPEP 2106 (IV)(D):

"The examiner bears the initial burden ... of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If the record as a whole suggests that it is more likely than not that the claimed invention would be considered a practical application of an abstract idea, natural phenomenon, or law of nature, then USPTO personnel should not reject the claim.

Moreover, according to MPEP 2106 (IV) (C):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application."). "[A]n application of a law of nature or mathematical formula to a ... process may well be deserving of patent protection." *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also *Corning*, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted . . ."). In other words, the opposite meaning of "tangible" is "abstract." (emphasis added)

Claims 1 -20 are rejected as not tangible. Specifically the Rejection contends "... claims 1 and 16 are not tangible as they do not provide a "real world" result to a user. For example, they do not actually display, provide to a user, or use a computer or

processing device to aggregate the results of the query process (per claim 1), or the results of the benchmark comparisons (per claim 16).” However, as indicated above, the tangible requirement does not mean that claim must be tied to a particular machine or apparatus... rather that the claim not be abstract. Applicants submit that these claims are not abstract, and that that the Rejection’s bare assertion that the claims “do not provide a ‘real world’ result to a user” fails to meet the initial burden of showing a *prima facie* case of unpatentability.

Furthermore, Claim 1 recites, “aggregating results of said query process with adjustments for said participant characteristics to produce an aggregated probability projection associated with said uncertain situation” (emphasis added). Applicants submit that one of skill in the art at the time would find that the aggregated query of Claim 1 produces a non-abstract, and therefore tangible result. Additionally, Claim 9 is drawn towards a computer system. The Examiner has previously indicated that Claim 9 provides a useful result (see pages 2 and 4 of Current Rejection). Applicants respectfully submit that the computer system recited by Claim 9 is also non-abstract in addition to being useful, and that one of skill in the art at the time would find such a computer system to be tangible. Finally, Claim 16 recites, “comparing said new predictive aggregation formula to said prediction bench mark to determine if said new predictive aggregation formula is providing beneficial information” (emphasis added). Applicants submit that one of skill in the art at the time would find that the comparisons to the prediction benchmark of Claim 16 produce a non-abstract, and therefore tangible result.

Accordingly Applicants submit that Claims 1, 9, and 16 are allowable over the 35 U.S.C. §101 rejection. Claims 2-8 depend from Claim 1; Claims 10-15 depend from

Claim 9; and Claims 17, 19, and 20 depend from Claim 16. As such, Applicants submit that claims 2-8, 10-15, and 17, 19, and 20 are allowable over the 35 U.S.C. §101 rejection by virtue of their dependence upon allowable base claims.

35 U.S.C. §112, second paragraph

Claims 1 - 20 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claims 1 and 9 are rejected because the Examiner asserts it is not readily apparent how the limitation “performing a query process” is related to running an information market. The Examiner also asserts that it is not readily apparent what the adjustments are that are made while aggregating results of the query process or what the adjustments are or why they are made. Applicants have amended Claims 1 and 9 herein to recite “performing a query process in addition to said running said information market....” Applicants submit it is apparent from the limitations of Claims 1 and 9, that “running an information market” allows “extracting of participant characteristics”, and that this allows “aggregating results of said query process with adjustments for said participant characteristics to produce an aggregated probability projection associated with said uncertain situation”. Therefore, Applicants respectfully submit that Claims 1 and 9 overcome the rejection under 35 U.S.C. §112, second paragraph.

Claim 8 is rejected based upon clarity of claim language. Claim 8 has been amended herein to recite “...wherein the results of the query process are aggregated by utilizing Bayes formula with each probability of said future outcome occurrence assigned by a participant modified by an exponential factor to condition the probability

for adjustments associated with each participant's characteristics," emphasis added. Applicants submit that this amendment overcomes the rejection under 35 U.S.C. §112, second paragraph.

Claim 16 is rejected because the Examiner asserts it is not clear how a perfect information market is defined, nor is it clear what is being aggregated. Claim 16 has been amended herein to recite, "wherein said new predictive aggregation formula aggregates predictive information related to said experimental information market" (emphasis added). Additionally, Claim 16 has been amended herein to recite "creating a prediction benchmark representative of a probability distribution conditioned upon all information acts of said experimental information market," emphasis added. As a result of these amendments, Applicants respectfully submit that Claim 16 overcomes the rejections under 35 U.S.C. §112, second paragraph.

Claim 20 is rejected because the Examiner indicates that it is not clear what the word "Equation" is supposed to reference. Additionally, the Examiner indicates that the relationship between three aggregation mechanisms (the no information prediction, the prediction of the best individual, and the non-linear aggregation method) is not clear, and the relationship between the three aggregation mechanisms and the information being aggregated is not clear. Applicants have revised Claim 20 to provide clarification accordingly. The term "equation" has been eliminated. Additionally, the three aggregation mechanisms have been clarified with regard to their relationship to one another and to information being aggregated. Therefore, Applicants respectfully submit that Claim 20 as amended herein overcomes the rejection under 35 U.S.C. §112, second paragraph.

Accordingly, as a result of these amendments, Applicants submit that Claims 1-20 are now allowable over the 35 U.S.C. §112, second paragraph rejections.

35 U.S.C. §102(b)

Anticipation Requirements

According to MPEP 2131, “to anticipate a claim, the reference must teach every element of the claim.” Further, as cited in MPEP 2131, “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Additionally, according to MPEP 2131, “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Claims 1-6, 9-11, and 13-15

Claims 1-6, 9-11, and 13-19 are rejected under 35 U.S.C. §102(b) as being anticipated by the Non-Patent Literature “fantasystockmarket.com,” hereinafter referred to as the “FSM” reference. Applicants have reviewed the cited reference and respectfully submit that the embodiments of the present invention as recited in Claims 1-6, 9-11, and 13-15 are not anticipated by the FSM reference in view of the following rationale.

Applicants respectfully direct the Examiner to independent Claim 1, which recites that an embodiment of the present invention is directed to (emphasis added):
“performing a query process in addition to said running said information market, said

query process including posing a predictive query to said participants and gathering results of said predictive query, said predictive query about a probability of a future outcome occurrence associated with an uncertain situation.”

Independent Claim 9 recites similar limitations. Claims 2-6 that depend from independent Claim 1, and Claims 10, 11, and 13-15 that depend from independent Claim 9 provide further recitations of the features of the present invention.

As explained by the anticipation requirements cited above, “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Applicants respectfully submit that the FSM reference fails to satisfy this requirement of anticipation, because it does not teach, either expressly or inherently, “performing a query process in addition to said running said information market...,” as recited in Claims 1 and 9.

Therefore, Applicants respectfully assert that nowhere does the FSM reference teach, disclose or suggest the claimed embodiments of the present invention as recited in independent Claims 1 and 9, that these claims overcome the rejection under 35 U.S.C. § 102(b), and that these claims are thus in a condition for allowance. Additionally, Applicants respectfully submit that Claims 2-6, 10, 11, and 13-15 also overcome the rejection under 35 U.S.C. § 102(b), and are in a condition for allowance as being dependent on an allowable base claim.

Claims 16-19

Claims 16-19 are rejected under 35 U.S.C. §102(b) as being anticipated by the the “FSM” reference. Applicants have reviewed the cited reference and respectfully

submit that the embodiments of the present invention as recited in Claims 16, 17, and 19 are not anticipated by the FSM reference in view of the following rationale.

Applicants respectfully direct the Examiner to independent Claim 16, which recites:

implementing an experimental information market including an artificial market in which financial instruments are utilized, wherein said financial instruments are traded by participants in said information market;
developing a new predictive aggregation formula with adjustments for personal characteristics of said participants, wherein said new predictive aggregation formula aggregates predictive information related to said experimental information market, said personal characteristics extracted through an analysis of results of trading of said financial instruments;
creating a prediction benchmark representative of a probability distribution conditioned upon all information acts of said experimental information market;
defining a measure to compare said new predictive aggregation formula with said benchmark and
comparing said new predictive aggregation formula to said prediction bench mark to determine if said new predictive aggregation formula is providing beneficial information.

Claims 17 and 19 depend from independent Claim 16, and provide further recitations of the features of the present invention. Claim 18 was cancelled herein, thus rendering rejection of this claim moot.

As explained by the anticipation requirements cited above, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Applicants respectfully submit that the FSM reference fails to satisfy this requirement of anticipation, because it does not teach, either expressly or inherently, "developing a new predictive aggregation formula with adjustments for personal characteristics of said participants...", as recited in Claims 16. The Rejection contends that the FSM reference teaches (on pages 2 and 4) tracking Participant's portfolios against other participants. However, per Applicants'

understanding, such tracking does not involve, teach, or suggest, “developing a new predictive aggregation formula with adjustments for personal characteristics of said participants...,” as recited in Claims 16.

Therefore, for at least the rational described above, Applicants respectfully assert that nowhere does the FSM reference teach, disclose or suggest the claimed embodiments of the present invention as recited in independent Claim 16, that this claim overcomes the rejection under 35 U.S.C. §102(b), and that this claim is thus in a condition for allowance. Additionally, Applicants respectfully submit that Claims 17 and 19 also overcome the rejection under 35 U.S.C. §102(b), and are in a condition for allowance as being dependent on an allowable base claim.

35 U.S.C. §103(a)

Claims 7-8

Claims 7-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over FSM in view of Jennings et al., U.S. Patent No. 6,606,615, hereinafter referred to as the “Jennings” reference. Applicants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 7-8 are not anticipated or rendered obvious by the FSM and Jennings references, either alone or in combination, in view of the following rationale.

THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF
OPERATION OF A REFERENCE

According to MPEP 2143.01, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie*

obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)” (emphasis added). Moreover, “[i]f the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)” (emphasis added).

Applicants submit there is no suggestion or motivation to combine the FSM and Jennings references for the rejection of Claims 7 and 8 under 35 U.S.C. §103(a), as the proposed modification or combination of the prior art would change the principle of operation of the invention being modified. For example, per Applicants’ understanding, the FSM reference is directed to a fantasy stock market game which ranks players by the absolute gain or loss of their portfolio (either in dollars or as a percentage) with reference to a common starting value of \$100,000 (see, e.g., pages 4, 9, and 10 of FSM).

With respect to Claim 7, the rejection proposes combining the Jennings reference with the FSM reference “...to generate a more accurate estimation of the statistical distributions associated with market estimations of future outcomes, thereby enhancing the accuracy of the measure of market sentiment relating to values of the stocks and mutual funds, which enables a better ranking of participants’ performance,” (see page 8 of the present Rejection). Applicants respectfully submit that such a modification to the rankings structure of FSM would change the principle of operation of the FSM reference, which ranks participants based on absolute gains or losses of a portfolio. As such, the combined teachings of the FSM and Jennings references are not sufficient to render Claim 7 *prima facie* obvious.

With respect to Claim 8, the rejection the rejection proposes combining the Jennings reference with the FSM reference "... to modify FSM to aggregate the results of the query process by utilizing Bayes formula...as doing so enables FSM to generate a more accurate estimation of the statistical distributions associated with market expectations of future outcomes, thereby enhancing the accuracy of the measure of market sentiment relating to values of stocks and mutual funds, which enables a better ranking of participants' performances," (see page 9 of the present Rejection). Applicants respectfully submit that such a modification to the rankings of FSM would change the principle of operation of the FSM reference, which ranks participants based on absolute gains or losses of a portfolio. As such, the combined teachings of the FSM and Jennings references are not sufficient to render Claim 8 *prima facie* obvious.

Claim 12

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over FSM in view of Clyman, "Unreasonable Rationality?", 1995, hereinafter referred to as the "Clyman" reference. Applicants have reviewed the cited references and respectfully submit that the embodiment of the present invention as recited in Claim 12 is not anticipated or rendered obvious by the FSM and Clyman references, either alone or in combination, in view of the following rationale.

Applicants respectfully direct the Examiner to independent Claim 9, which recites that an embodiment of the present invention is directed to (emphasis added):
"performing a query process in addition to said running said information market, said query process including posing a predictive query to said participants and gathering results of said predictive query, said predictive query about a probability of a future

outcome occurrence associated with an uncertain situation.” Applicants submit, as described previously, that the FSM reference does not teach or suggest this limitation.

The addition of the Clyman reference fails to cure this deficiency. The Rejection (page 9) contends that the Clyman reference discloses market games being associated with an Arrow-Debreu state security. Applicants disagree with the Rejection’s characterization of the teachings of the Clyman reference. Per Applicants understanding, Pages 4-5 of the Clyman reference make no mention of market games being associated with Arrow-Debreu securities. Instead, Applicants understand the Clyman reference to explore the concept how fractional demands change upon exogenous changes in security returns and wealth (See, e.g., Page 1 of Clyman) and merely describe some example theoretical security trading scenarios (see pages 2 and 3 and Figures 1 and 2 of Clyman) to illustrate the concept of the Arrow-Debreu security. At most, page 4 of the Clyman reference mentions that, “An Arrow-Debreu security is -- named in honor of the two economists who developed the idea of complete markets -- is a lottery the pays in one and only one state.” Applicants submit that such a statement is not a disclosure of market games being associated with an Arrow-Debreu state security.

Further, per Applicants’ understanding, the combination of the FSM and Clyman references does not teach or suggest, “performing a query process in addition to said running said information market, said query process including posing a predictive query to said participants and gathering results of said predictive query, said predictive query about a probability of a future outcome occurrence associated with an uncertain situation,” as recited in Claim 9. As such, Applicants submit that Claim 9 is neither

anticipated nor rendered obvious by the FSM reference or the Clyman reference, either alone or in combination.

Dependent Claim 12 is dependent on allowable Independent Claim 9, which is allowable over the combination of the FSM and Clyman references. Hence, it is respectfully submitted that dependent Claim 12 is patentable over the combination of the FSM reference in view of the Clyman reference by virtue of its dependence upon an allowable base claim.

Claim 20

Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over FSM in view of Tsukimoto, U.S. Patent No. 6,353,816. Applicants have reviewed the cited references and respectfully submit that the embodiment of the present invention as recited in Claim 20 is not anticipated or rendered obvious by the FSM and Tsukimoto references, either alone or in combination, in view of the following rationale.

Applicants respectfully direct the Examiner to independent Claim 16, which recites that an embodiment of the present invention is directed to (emphasis added): “developing a new predictive aggregation formula with adjustments for personal characteristics of said participants...”. Applicants submit, as described previously, that the FSM reference does not teach or suggest this limitation.

The addition of the Tsukimoto reference fails to cure this deficiency. Per Applicants’ understanding, the Tsukimoto reference may teach a neural network analysis method and apparatus (col. 1, lines 8-10 of Tsukimoto). However, per Applicants’ understanding, the combination of the FSM and Tsukimoto references does

not teach or suggest, “developing a new predictive aggregation formula with adjustments for personal characteristics of said participants...,” as recited in Claim 16. As such, Applicants submit that Claim 16 is neither anticipated nor rendered obvious by the FSM reference or the Tsukimoto reference, either alone or in combination.

Dependent Claim 20 is dependent on allowable Independent Claim 16, which is allowable over the combination of the FSM and Tsukimoto references. Hence, it is respectfully submitted that dependent Claim 20 is patentable over the combination of the FSM reference in view of the Tsukimoto reference by virtue of its dependence upon an allowable base claim.

CONCLUSION

In light of the above remarks, Applicants respectfully request reconsideration of the rejected claims. Based on the arguments presented above, Applicants respectfully assert that Claims 1-17, 19, and 20 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these Claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

WAGNER BLECHER LLP

Dated: 4/24/07



John P. Wagner, Jr.
Registration No.: 35,398

WAGNER BLECHER LLP
Westridge Business Park
123 Westridge Drive
Watsonville, CA 95076
San Jose, CA 95113

Phone: (408) 377-0500
Facsimile: (408) 722-2350